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ABSTRACT

Classroom projects, activities, and games for use in primary classrooms, which were developed by high school students serving as aides, are presented. Most of the projects are organized into the following curriculum areas: reading/language arts, multidisciplinary studies, mathematics, social studies, and science. Class activities having similar objectives appear together. Several projects within each curriculum area are described in detail, while the remainder are listed by title and are described briefly. Appendices include instructions for binding books, suggestions for setting up a classroom library of books written by students, and steps involved in organizing a field trip. (JW)

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Mystery People, Prince Rabbit, and Other Projects by Student Aides

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Mystery People, Prince Rabbit, and Other Projects by Student Aides

Montgomery County Public Schools
Rockville, Maryland

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Acknowledgments

This publication was written by Claire R. Salmond, teacher of the program for kindergarten aides, with the assistance of Barbara White, editor, Montgomery County Public Schools. The projects themselves were created by high school student aides and the teachers they worked with.

Grateful acknowledgment is made to all the high school students who have served as kindergarten aides since the beginning of the course in September 1972. They have made this program possible by dedicating themselves to helping teachers and to expanding the educational experiences of young children in the elementary schools.

A special note of appreciation is extended to the many teachers who, with much extra time and patience, have helped their high school aides gain understanding of young children, learn about educational career opportunities, and realize much of their own human potential.

Special appreciation must be extended to the people who helped make this document attractive as well as informative:

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Introduction

Student aides assigned to the elementary school classrooms provide many services to elementary school children and their teachers each day. The nature of these services is determined by the individual needs in each classroom situation and the interests and abilities of the aides.

During the spring semester, student aides are expected to develop a special project for the children based on the understanding they have gained from their experiences working with the children and the curriculum designed for them. Project decisions are made jointly by the aide and the elementary school teacher. The project may be a special lesson, a learning game, a field trip, a play, or some other appropriate contribution. Whatever the project, it should offer an enriching experience for the children.

This booklet describes some of the projects which have been completed by student aides. Reading about what has been done in the past may stimulate ideas for other projects in the minds of current student aides. Wherever possible, the projects have been organized according to the curriculum area which they support. Activities with similar objectives appear together. Within each curriculum area, several projects are described in detail, while the remainder are listed by title and described briefly.

A large variety of activities are described in this booklet. Many projects are creative; all are educationally sound. With the help of the classroom teachers, the student aides have made real contributions to the school experience of elementary school children. Through these projects, children have mastered many of the skills schools are responsible for teaching and the aides have experienced what it is like to help a younger person to learn.

Reading/Language Arts

Projects by student aides in reading/language arts range from activities that teach simple prereading skills, such as matching two pictures that are alike, to sophisticated board games and projects that require students to read directions, solve problems, and spell words. For the younger children, there may be handwriting and other skills involving learning the letters of the alphabet, while reading activities accompanied by comprehension questions are designed for the more advanced students. There are stories written by a class or a group of children, stories written by individual children, and stories written by aides to be read and given to the children. Stories and lessons may be presented on the flannel board. Some children learn to bind their own stories into books and then arrange them in a classroom library. Stories are taped for the listening station and children are taught how to tape their own and others' stories. Puppet shows and dioramas are used at all levels, sometimes as follow-up activities to hearing a story and at other times to teach a needed skill. Wherever possible, instructional materials have been laminated to preserve them for future use.

Where feasible, similar types of activities have been arranged together. Following this arrangement are several combination projects designed to increase students' skills in mathematics, reading/language arts, and other areas of the curriculum.

Let's Get into Reading

Collection of magazine articles/stories with questions for independent reading

Objectives:

- To read given material with comprehension
- To answer questions correctly

Material: Seven articles from *Highlights for Children* laminated on the front of folders. Questions related to each article are laminated inside the folder. The answers are put in a pocket on the back of the folder. A bonus question designed to promote higher level thinking is included along with suggested follow-up activities.

Intended for: Individuals

Directions/Procedures:

1. Have the students read the articles/stories either independently or to a friend.
2. Have the students read the questions and write the answers on a piece of paper.
3. Have the students place the answers in the folder pocket.
4. Have the students do the suggested activities (optional).

Cindy Duranko, Grade 3
Wheaton Woods Elementary School, 1979-80

Prince Rabbit

Flannel board presentation of a story which had been rewritten and memorized by the presenter

Objectives:

- To listen to and comprehend a story as presented on the flannel board
- To retell the story using the same flannel board characters

Materials: Story characters made of paper and backed by pieces of felt; dittoed copies of story

Intended for: Small or large group

Directions/Procedures:

1. Introduce the children to each character in the story on the flannel board before telling the story.
2. Have the children listen to the story and observe the characters as they appear and disappear.
3. The story may be repeated at different times.
4. Invite the children to retell the story using the props and characters provided.
5. Give each child a copy of the story to take home and retell or have read again to him/her.

Diane Nell, Grade 2
Jackson Road Elementary School, 1981-82

Other Approaches to Develop Similar Objectives

- *The Little Red Hen* is presented on flannel board with props and characters made of felt. During a second presentation, the aide reads the story but invites the students to place the characters and props on the flannel board and supply the dialogue. (This project was developed in conjunction with a unit on farming.)

Sue Crane, Kindergarten
Germantown Elementary School, 1980-81

- *The Story of Ping* uses paper characters with felt backing.

Darlene Norris, Grade 1
Glen Haven Elementary School, 1979-80

- *Jack Be Nimble* uses color-coded words to write the nursery rhyme on the flannel board. Proper names (the Jacks) are one color, the action words another color, etc.

Lori Thurman, Kindergarten
Sherwood Elementary School, 1980-81

Let's Build Our Own Library

Bookbinding and arranging a classroom library

Objectives:
- To bind one's own story into a book
- To organize books into a lending library

Materials: Paper for pages; two pieces of cardboard; material for cover (cloth, oilcloth, wallpaper, contact paper, construction paper, etc.); tools (scissors, glue, sturdy needle, strong thread); library pockets; marking tabs; magic markers

Intended for: Groups or individuals

Directions/Procedures: For bookbinding, see instructions in Appendix A. For arranging the classroom library, see instructions in Appendix B.

Joan Blatner, Grade 3
Maryvale Elementary School, 1980-81
Patricia Payne, Grade 1
Lone Oak Elementary School, 1980-81

Easy-To-Read Books

Listening Center Activity

Objectives:
- To be able to follow the words and sentences in a book while listening to the story being read aloud
- To become interested and skilled in reading specific books independently
- To operate a tape recorder
- To tape easy-to-read stories

Materials: Tape recordings (made by the aide) of books selected from the easy-to-read library collection; tape recorder; several copies of easy-to-read books of the stories taped; blank tapes or cassettes

Intended for: Small group of students (two to six)

Directions/Procedures:
1. Each child selects an easy-to-read cassette story (previously recorded).
2. Each child listens to the story (earphones may be needed).
3. Each child selects the easy-to-read book that goes with the cassette just heard.
4. The child listens to the story for a second time and follows along in the book. This is repeated as many times as is necessary until the student feels confident to read the story.
5. The child tapes the story on a blank cassette.

Sherry Ann Donovan, Grades 1-2
Flower Valley Elementary School, 1979-80

Word Find

Word puzzle ditto

Objective: To match a given set of words to words in a word find grid

Materials: A ditto paper showing a grid with 110 squares in it, each containing one capital letter. Hidden in the grid are the 15 words that appear on a list written under the grid. A stopwatch is optional.

Intended for: One player per ditto

Directions/Procedures:
1. Each player studies the grid to find words that match the words on the list, going either horizontally, vertically, left to right, or right to left.
2. Each player underlines the words on the grid and on the list as they are located. Suggestion: Use colors to indicate matching word pairs.
3. A stopwatch may be used to determine the time the player takes to complete the exercise. This time can be compared to the student's time on a second word search ditto of similar size and complexity.

Robin Meyers, Intermediate Special Education
Cashell Elementary School, 1981-82

Other Approaches to Develop Similar Objectives

- A bingo type of game (with cards 8½" x 9½") contains the names of animals in each square to be covered when an index card with a matching name on it is held up for all to see.

Kathy Kelly, Kindergarten
Germantown Elementary School, 1980-81

- Pictures of dinosaurs labeled by name are pasted on library pockets on a posterboard. These are matched with cards that are identical to the pockets.

Tammy Griffith, Kindergarten
Monocacy Elementary School, 1981-82

Spin and Write

Learning game to promote spelling and phonics skills

Objectives:

- To spell words having certain stated characteristics
- To use a picture dictionary

Materials: A poster on which is painted a large upright animal (standing on hind legs facing the viewer). On the animal is a spinning arrow in a circle which has ten equal numbered sections. Next to the animal is pasted a library pocket containing cards with special spelling assignments numbered from one to ten to match the spinner circle. Several groups of ten cards were used. One group of cards had blends, such as *sl, pr, tr, sp, br, sm, sn, sk,* and *gl.* Another group had short and long vowels, such as short *a,* long *u,* long *i,* short *e,* long *a,* long *o,* short *i,* short *u,* long *e,* and short *o.* A third group had words beginning with specific consonants. Also needed are a piece of lined paper and pencils.

Intended for: Two players who are high academic achievers

Directions/Procedures:

1. The first player spins the arrow and takes the card whose number matches the number the arrow points to. The player spells and then writes a word which meets the criterion stated on the index card.
2. The second player does the same.
3. The game continues until each player has spelled and written six words.
4. No word may be spelled and written more than once during the game.
5. The players look up the words in the picture dictionary to verify the spelling or submit the written words to a designated person to be evaluated.
6. The winner is the player with the most words spelled correctly.

Sharon Jackson, Kindergarten High Achievers
Westover Elementary School, 1981-82

Another Approach to Develop Similar Objectives

A tic-tac-toe game. Students are to write specific sets of words (such as long or short vowel words) into empty tic-tac-toe grids at random as the words are dictated. The words are read a second time and the students cross them out with an *x.* The first player who crosses out a row of words (horizontally, vertically, or diagonally) wins the game provided that the words are spelled correctly.

Robin Meyers, Intermediate Special Education
Cashell Elementary School, 1981-82

Nest Eggs

Categorization activity

Objectives:

- To group pictures of objects or living things into given categories according to function, shape, or other characteristics
- To associate words with the pictures they name

Materials: A file folder with a picture of a large bird on the cover and five nests three inches wide pasted as pockets in such a way that 1½" eggs may be inserted in them or attached by paper clips. Under each nest is written one of the following topics: things to eat, things to wear, living things that breathe, things that are round, things that hold liquid. (Other categories may be used.) Thirty-five 1½" eggs, each with a picture and a word name on it, are to be placed in the nests by category.

Intended for: One to four participants

Directions/Procedures:

1. Divide eggs equally among the participants.
2. Each child puts one egg into the appropriate nest in turn.
3. The procedure is repeated until all of the eggs have been placed according to function, shape, etc.

Diane Lewis, Kindergarten
Woodfield Elementary School, 1980-81

Alphabet Cards

Teaching/learning resource tool

Objectives:
- To match upper and lower case letters
- To follow the arrows to write these letters in correct form
- To become familiar with the alphabet and the positions of the letters in it
- To learn the sounds that letters represent at the beginning of words

Materials: Index cards, secured on a ring at one corner, on which are written one upper or one lower case letter with arrows used to show handwriting formation. Familiar pictures and words illustrating the sound that each letter represents at the beginning of each word also appear on the cards.

Intended for: Individuals

Directions/Procedures: Have the student use the cards for practice in matching upper and lower case letters, for handwriting practice, for learning the sequence of the alphabet, or for learning letter sounds.

Beth Cutler, Grades 2-3
Lake Normandy Elementary School, 1979-80

Other Approaches to Develop Similar Objectives

- Alphabet book for each child made from 8½" x 11" newsprint pages as a follow-up to a field trip to the zoo. Each page shows one letter in upper and lower case and a picture, drawn by the child, of an animal whose name begins with that letter.

Debbie Gant, Kindergarten
Watkins Mill Elementary School, 1980-81

- Alphabet book for each child made from 10" x 12" pages of manila paper. Each page shows one upper case and one lower case letter, traced and cut out of wallpaper by the child; an object beginning with the letter, drawn and crayoned by the child; and the name of the picture written in lower case letters.

Dina Litchman, Kindergarten
New Hampshire Estates Elementary School
1970-80

- Two sets of six index cards, one with upper case letters and the other with the matching lower case letters. The pairs are color coded, and the cards are suitable for small group activities and games.

Theresa Orsega, Kindergarten
Galway Elementary School, 1979-80

- Words in upper case letters, which have been cut out of magazines, appear on one side of a poster. These need to be matched with the same words in handwritten lower case form which appear on the opposite side of the poster.

Kathy Brooks, Kindergarten
Bannockburn Elementary School, 1979-80

- One pair of upper and lower case letters of the alphabet is written on each of 26 library pockets which are pasted on a large piece of posterboard. Pictures and names of objects beginning with the letters appear above the letters. Twenty-six alphabet cards showing a different set of objects and words accompany the large poster and are to be inserted into the appropriate pockets.

Pamela Hudgens, Kindergarten
New Hampshire Estates Elementary School
1980-81

- A set of 26 laminated cardboard jigsaw letter puzzles with 26 additional laminated cut-out objects which begin with the sound each letter represents. Each puzzle has 2 pieces. On one piece is the upper case alphabet letter and on the other is the matching lower case letter. After each puzzle is assembled, the child selects the appropriate cut-out object to place with the puzzle.

Melanie Mitchell, Primary Resource Room
Diamond Elementary School, 1979-80

- Self-checking two-piece puzzles contain matching singular and plural words.

Kristine Nelson, Grade 1
Beverly Farms Elementary School, 1980-81

Story Time: "Ricky and the Princess"

Original story with follow-up activities

Objectives:
- To listen to and comprehend a story
- To retell a story in correct sequence
- To make puppets and present a puppet show

Materials: Drawing paper, tongue depressors, paste, crayons, puppet stage, dittoed copies of story

Intended for: Small or large group (flexible number)

Directions/Procedures:
1. Tell the story; do this several times on successive occasions if necessary.
2. Have the children discuss the story and answer questions about it.
3. Have the children discuss how the characters looked, were dressed, etc.

4. Have the children construct stick puppets of the characters in the story.
5. Have the children present a puppet show of the story.
6. Have the children take home a copy of the story and the puppets for additional presentations.

Terri Trammell, Grade 1
Germantown Elementary School, 1980-81

Other Approaches to Develop Similar Objectives

• A diorama depicted *Charlie and the Great Glass Elevator*, a story that was read to the children two or three chapters per day. Children worked on the diorama as a follow-up activity and used it to retell the story.

Brian Willis, Kindergarten-Grade 1
Lynnbrook Elementary School, 1980-81

• Children were assigned to manipulate the puppets in a puppet show taken from one of the Winnie-the-Pooh stories. The dialogue was taped and the tape used as background to present the show to children from another class who had received written invitations for the show.

Melva Thompson, Grade 1
Jackson Road Elementary School, 1981-82

• A "penny theater" presentation of the story *The Very Hungry Caterpillar* used a caterpillar constructed from wire and pipe cleaners. The caterpillar was made to move before a changing scenic background as the story unfolded. The story was taped by the student aide.

Tricia Mullinix, Kindergarten
Damascus Elementary School, 1981-82

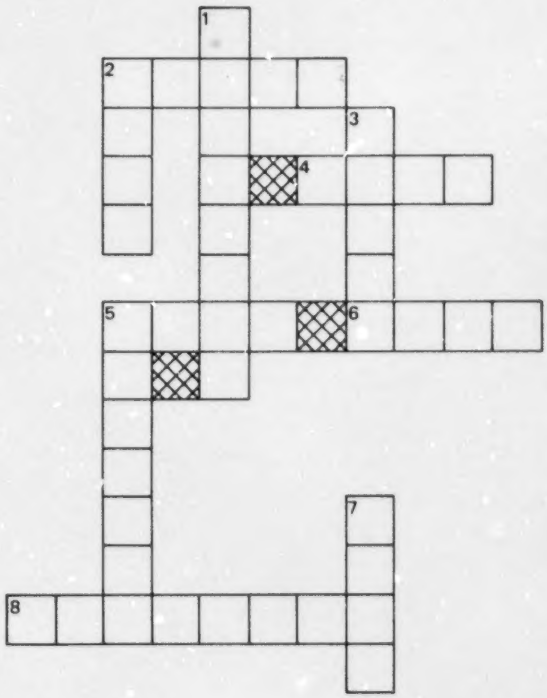
Crossword Puzzle

Learning activity to develop skills in spelling and vocabulary usage

Objectives:
• To select words that fit in the puzzle and satisfy the clues as given
• To spell the words correctly

Materials: Copies of the unworked crossword puzzle and the clues

Intended for: Individuals



Clues

Across:
2. When ducks talk they make this sound.
4. You get a point for scoring this in soccer.
5. We use this in the shower.
6. Another word for house is _____.
8. Will you please answer the _____.

Down:
1. We wear this in the rain.
2. We take a _____ in math every week (not test).
3. He is in charge of the team.
5. We _____ the orange to get the juice.
7. Dogs like to chew this.

Directions/Procedures:
Have students read the clues for the words going across and down. Have students select words which match the definitions, and fit them into the spaces provided. Students should be sure that all words that intersect have a letter in common at the point of intersection.

Answer key: Across: 2. quack; 4. goal; 5. soap; 6. home; 8. question.
Down: 1. raincoat; 2. quiz; 3. coach; 5. squeeze; 7. bone.

Robin Meyers, Intermediate Special Education
Cashell Elementary School, 1981-82

Where Is the Candle?

Flannel board basic concepts lesson

Objectives:

- To respond correctly in complete sentences to questions as to the position of one object in relation to another
- To associate written words with specific positions

Materials: Flannel board with sentence slots in the bottom half; flannel board pieces in the shapes of a candle and a table; sentences describing the position of the candle in relation to the table (using basic concept flannel board words such as above, behind, under, etc.)

Intended for: Up to five participants

Directions/Procedures:

1. Leader or teacher places the candle on the flannel board in a specific position in relation to the table and asks a student to state its position in a sentence, such as: The candle is _____ the table.
2. The teacher selects the flannel board basic concept word that describes the position of the candle, and places it on the flannel board.
3. The teacher selects a sentence which states what the student has just said and inserts it into a slot under the flannel board pieces.
4. This process continues until all basic concepts have been explored.
5. The teacher/leader selects a student to be the leader, and the lesson is repeated until all have had a turn or until the students lose interest.

Karen Koenig, Kindergarten
Meadow Hall Elementary School, 1979-80

The Letter People's Picnic

Stick puppet show

Objectives:

- To recognize letter sounds at the beginning of words
- To match them with the names of three letter people from the Alpha-Time reading series

Materials: Laminated stick puppets of three letter people (Mr. M, Mr. H, and Mr. T); representations of marshmallows, hot dogs, a turkey, a tree, a flower, a mailbox, and a hill; tape recorder; blank tape or cassette

Intended for: Small group

Directions/Procedures:

1. Write puppet show dialogue.
2. Introduce the puppets.
3. Present the puppet show to groups of six to eight children.
4. Divide the puppets among the immediate group.
5. Assist the children in presenting the show a second time.
6. Repeat the procedure with another group.
7. Record the puppet show dialogue on tape for future use.

Comments: This play tells about a picnic attended by the puppets—Mr. Munching Mouth (Mr. M), Mr. Tall Teeth (Mr. T), and Mr. Horrible Hair (Mr. H). Mr. M brought marshmallows; Mr. H, hotdogs; and Mr. T, turkey. As the characters were on their way to the park, they commented on the scenery and tried to decide what beginning sound was heard in each of the words they said.

Sample dialogue:

Mr. M: There's a tree. That begins like your name, Mr. T.
Mr. T: Are you sure?
Mr. M: I think so. Let's prove it.
Mr. M and Mr. T: Tall Teeth Tree.
Mr. H: Yep, tree begins with "T."

Kim Wisor, Kindergarten
Oakland Terrace Elementary School, 1979-80

Letter People Bingo

Beginning Reading Game

Objectives:

- To recognize the similarity between the beginning sounds in specific words and the beginning sounds in the names of the letter people from the Alpha Time reading program
- To match a set of picture cards with the letter people whose names begin with the same sounds as the objects shown in the pictures

Materials: Ten laminated playing boards, each containing nine squares and each with a different set of pictures of the Alpha Time letter people as illustrated on Alpha Time ditto masters, such as: Mr. M (Munching Mouth), Mr. T (Tall Teeth), Miss U (Upsy-daisy Umbrella), and Mr. C (Cotton Candy); approximately 100 small laminated picture cards each having a colored picture of a familiar object either drawn or pasted on it such as apple, doughnut, vase, and moon (the names of the objects are written on the back of the card); a set of nine markers for each player; a box for the picture cards

Intended for: Groups of no more than ten students

Directions/Procedures:

1. Each player takes one game card and names the letter people which appear on the card.
2. Each player takes a set of nine markers.
3. One child, acting as the leader, at random selects a picture card from the box of cards, shows the card to the group, and names the picture.
4. Every child having a card containing the letter person whose name begins the same way as the picture on the card covers that square with a marker.
5. Winners may be determined in one of several ways, such as the first one whose markers cover:
   a) A line of squares horizontally, vertically, or diagonally
   b) Every square on the card
   c) The outside squares all around the card.

Cassie Daly, Kindergarten
Wood Acres Elementary School, 1982-83

Concentration/Spelling

Game to be played with cards having one spelling word written on each

Objectives:

- To learn to spell the words on the cards
- To be able to use the words appropriately in sentences
- To improve visual memory

Materials: Five or more pairs of index cards with one spelling word written on each card; chalkboard or paper; chalk or pencil

Intended for: Two equal teams of three to five children

Directions/Procedures:

1. Place the index cards face down on a table or the floor.
2. Line up two teams horizontally facing each other and the cards.
3. A on team 1 tries to find a pair of matching words (concentration style). If he/she is successful, the team keeps the pair.
4. B on Team 1 uses the word in a sentence.
5. If B does this correctly, C on Team 1 writes the word on the chalkboard or paper.
6. If this is correct, then Team 1 gets three points and Team 2 has its turn. Whenever a team member is unsuccessful in any part of the game, the turn goes to the other team.
7. The game ends when all the pairs have been found. Each team adds the points it has earned to the number of cards obtained. The winner is the team with the highest score.

Mona Lim, Grade 1
Sherwood Elementary School, 1982-82

Word Wheel

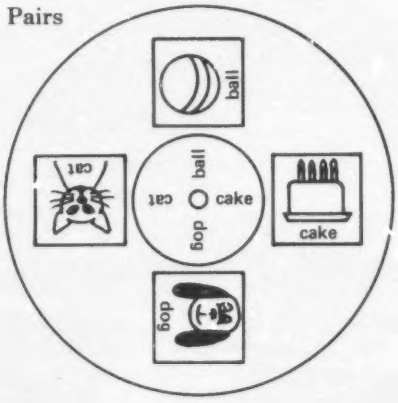
Self-checking picture-word matching activity

Objective: To associate the correct written words for simple, familiar objects with pictures of the objects

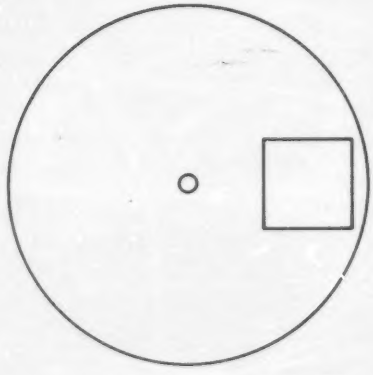
Materials: The word wheel is made of three circles cut out of poster paper. The circle on the bottom is the largest and has pictures and names of simple objects such as cat, dog, cake, and ball pasted around the circle (A). The next circle is about an inch and a half smaller with a window cut out so the pictures and words on the bottom circle may come through one at a time (B). The third circle is the smallest and has the names of the objects written around the circle (C). The three circles are fastened together with a brad so that the circles can be turned (D).

Intended for: Pairs

A



B



C

D

Directions/Procedures:

1. The students will arrange the circles so that nothing shows through the window of circle B.
2. The students will take their turns reading a word on the smallest circle.
3. The student will check his/her accuracy by turning the largest wheel until the picture and the matching word appear in the window.

Amy Grove, Kindergarten
Kensington Elementary School, 1979-80

Other Approaches to Develop Similar Objectives

• A flannel board activity kit which contains eight cut-out flannel board pieces (duck, dog, ball, cat, etc.) and a selection of flannel cut-out letters. The child chooses an object to put up on the flannel board, finds the letters to spell its name, and puts them next to the object. The child then goes on to another object. A set of eight cards containing an exact copy of the flannel board figures and their names is used by the child to correct his/her work.

Karen Koenig, Kindergarten
Meadow Hall Elementary School, 1979-80

• A set of ten two-piece laminated cardboard puzzles. One piece of each puzzle contains the name of an animal, and the other piece shows a picture of the animal. Puzzle variations: any set of words and objects, colors and words, etc.

Melanie Mitchell, Primary Resource Room
Diamond Elementary School, 1979-80

• "The Circus Is Coming to Town" is a word-picture association bulletin board to serve as an announcement of the circus which the kindergartners were going to present in the near future. Children were asked to stretch and secure pieces of string from pictures of circus characters both to the word that names the character and to objects associated with it.

Angie Vasselas, Kindergarten
Highland Elementary School, 1980-81

Reading/Language Arts, Math, etc.

Academic Olympics

Multidisciplinary field day

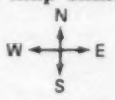
Objectives: To apply math, science, and social studies skills in an outdoor situation

Materials: Metric measuring devices, compass, booklet with dittos and blank paper, pencils, bag lunch for each child

Intended for: The entire class

Directions/Procedures:

1. The class goes to the field site (school grounds).
2. Give each student a working booklet and pencil.
3. Have the students follow written and oral directions involving skills such as:
   a) measuring designated distances with a metric tool (e.g., specific length of a fence)
   b) sketching living things (e.g., insects)
   c) using map skills to determine position of the sun and their shadow



   d) measuring liquid in a marked container (e.g., 1 cup of punch)
4. While the students eat their bag lunches, the student aide takes pictures.
5. Follow-up activities:
   a) Have the students make a mural and write stories about the experience.
   b) Arrange or have the students arrange a bulletin board using appropriate titles to display pictures of the event and samples of the stories.

Harolyn Rich, Grade 2
Beverly Farms Elementary School, 1980-81

Let's Play

Visual matching board game

Objectives:

- To classify characters as being letters, numerals, pictures, words, or colors
- To match the visual image of characters drawn or written on a game board to those appearing on separate sets of cards

Materials: Large game board (2½′ x 2′); three sets of cards to match squares on game board (colors and color words, letters and numerals, words and pictures, with one card for each square on the board); tokens; one die

Intended for: Three or four players

Directions/Procedures:

1. Each player rolls the die in turn.
2. Beginning at "Start," players move the token the number of spaces indicated on the die.
3. On each turn, the player identifies the block reached as having either a color, a letter, a numeral, a word, or a picture on it.
4. The player then selects the card which matches the square exactly.
5. If this is done correctly, the player remains on the block until the next turn and keeps the card. If it is done incorrectly, the player returns the card to the pack and moves back two spaces, but does not select a card.
6. If a player lands on a block whose card has already been selected, the player stays there with no card and waits for the next turn.
7. When the first player reaches the finish mark (he/she must roll the exact number to go in), the game is over, and this player adds two points to the number of cards earned. The other players count their cards as well but do not have the bonus of two to add to their score.
8. The winner of the game is the player with the highest score. This means that the first player to reach the finish line is not necessarily the winner.

Maria Perez, Kindergarten
Somerset Elementary School, 1980-81

Another Approach to Develop Similar Objectives

A large cardboard moose head with a hook mounted on each ear is displayed at a level where children can reach it. Pairs of cards having holes in them for hanging will contain matches such as upper and lower case letters, numerals and the words for them, pictures of objects and their beginning sounds, colors and color words written in the color of the word, etc. For self-checking, each pair of matching cards has a different character (△, ○, □, etc.) drawn on the back.

Cathy Edmonston, Kindergarten
Fox Chapel Elementary School, 1980-81

Getting Home from School

Math problem-solving and spelling/reading board game

Objectives:
- To solve math problems
- To spell or read words from spelling lessons
- To read special directions

Materials: Large game board with path from school to home on which are green or yellow dots and an occasional space with appropriate directions on it such as: You dropped your spelling book; go back 5 spaces. Your bike has a flat tire; lose your turn. Your friend's mother picks you up in her car; go ahead 5 spaces. Four sets of color-coded (green or yellow) cards with math problems or a spelling word on them (two sets for more advanced students and two for the others), 1 die, 4 tokens

Intended for: Two to four players and one monitor (if playing the spelling version)

Directions/Procedures:

1. Each player in turn rolls the die and moves the token the number of spaces indicated.
2. If the token lands on a green circle, the player selects a green card and tries to solve a math problem. If it lands on a yellow circle, the player selects a yellow card and reads the word, or the monitor selects a yellow card and asks the player to spell the word which is on the card.
3. If the player lands on a space with specific instructions, these must be read and followed.
4. If the player misses the answer to the question on the card, he/she misses a turn.
5. The winner is the first player to reach "home." (When a player gets within six spaces of "home," he/she must roll the exact number needed to reach home.")

Susan Vavreck, Grade 2
Forest Knolls Elementary School, 1979-80

Another Approach to Develop Similar Objectives

- A board game entitled "Our Story" includes a set of 40 cards presenting math problems to be solved and story words to be read. The directions for the game are similar to those of the "Getting Home from School" game above. The board is designed to depict the events which occurred in an original fairy tale, written by the children, involving a journey to a castle interrupted by various events: lost in moat, lose a turn; dragon gets you, lose a turn; lost in mountains, lose a turn; wind blows you, move ahead five spaces; bird helps you, move ahead five spaces.

Patricia Payne, Grade 1
Lone Oak Elementary School, 1981-82

Nursery Rhyme Time

A math/language arts activity center

Objectives:
- To follow directions
- To be exposed to nursery rhymes
- To review telling time

Materials: Large pieces of cardboard to be affixed to a three-sided stand for the center (large major appliance boxes would suffice); construction paper; colorful magic markers; masking tape; paper plates; brads; cardboard clock hands; sentence strips; yarn; book of nursery rhymes from which questions and/or quotes have been taken. The three-sided backdrop is covered with panels of colored paper and stands alone on a table or desk where the activity will occur. The middle section is labeled "Nursery Rhyme Time" (set the time on the clock). It displays sentence strips on which are written time questions about nursery rhymes or which quote selected lines from nursery rhymes mentioning the time when certain events occur. On the side panels are mounted paper plates depicting clock faces with hands that can be set manually by the students. Colored yarn connects the sentence strips with one of the clocks either on the right panel or on the left.

Intended for: Small groups of children under the guidance of the student aide and individual children who are independent readers

Directions/Procedures:

1. Read nursery rhymes to students.
2. Read aloud the directions that appear on the middle panel of the stand.
3. Read aloud the rhyme excerpts and questions on the sentence strips, such as:
   a) What time did Wee Willie Winkie run through the town?
   b) What time did the mouse run down the clock?
   c) A dillar a dollar a _____ o'clock scholar
   What makes you come so soon?
   d) You used to come at ten o'clock
   e) And now you come at noon.
4. Have the children, with assistance, set the hands on each clock which is connected by yarn to each strip to show the time called for in the nursery rhyme. If an answer is needed, reread the appropriate nursery rhyme from the book available at the center.
5. Read additional nursery rhymes to children to see if they can find a time mentioned.
6. Have the children formulate questions about time from new rhymes.

M. Suzanne Lam, Grade 1
Mill Creek Towne Elementary School, 1982-83

Squeaker at the Zoo

A language arts skit depicting the events in a favorite story.

Objectives:

- To listen to a story and recall the sequence of events which occurred
- To dramatize a story
- To recall and deliver dialogue which portrays the story to an audience

Materials: Construction paper (colors as needed); magic markers; glue; scissors

Intended for: The entire class, taking turns playing the parts in the skit

Directions/Procedures:

1. Design and make large masks depicting lions, elephants, giraffes, hyenas, bears, and one dog.
2. Read the story several times to the children and have them take turns assuming the parts of the characters and dramatizing the series of events informally. (Summary of story: Three children go to visit the zoo with their dog Squeaker. Squeaker gets separated from the children, who then visit different groups of zoo animals asking if they've seen their dog. The dog is finally located and all ends well.)
3. Direct children who wear the masks and perform the skit for parents and other visitors.

Lynn Bellison, Kindergarten
Damascus Elementary School, 1982-83

Getting Ready for First Grade

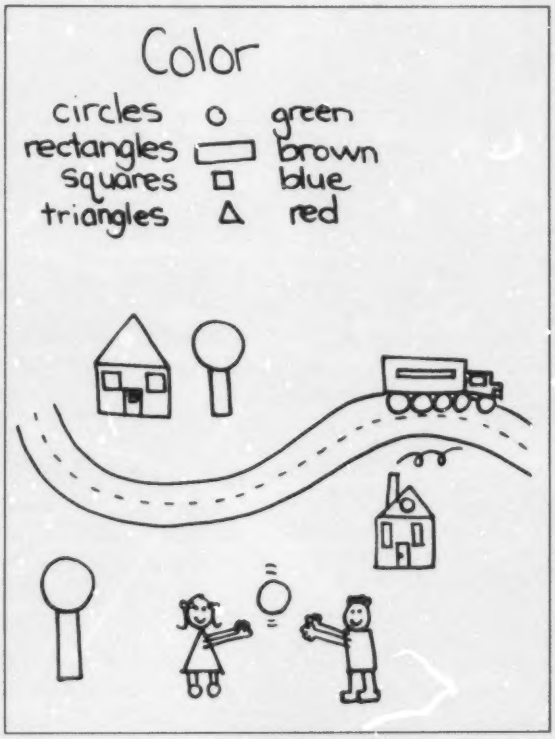
Original workbook prepared by the aide

Objectives:

- To practice skills that have been introduced during the kindergarten year
- To develop a positive attitude toward studying through self-discipline and assumption of responsibility

Materials: Booklet of 23 pages (back to back) summarizing many of the lessons taught during the school year, prepared on ditto masters and duplicated for each child in the class. It includes exercises on colors, shapes, sets, size, days of the week, handwriting of letters and numbers with guides to copy, number order, categorization, perception, seasons, and opposites. The following note to parents appears on the inside front cover: "This workbook was designed for the children to do by themselves, although they will need you to read the directions to them. Let them do one or two pages at a time when they are eager to work. This way they will have a good attitude towards studying and they will develop discipline and a sense of responsibility. Have a nice summer!"

Intended for: Every child



Directions/Procedures: The list of instructions includes:

- Mark the one that is different.
- Mark the one that is smaller/bigger than the first one.
- Mark the one that does not belong.
- Crayon specific shapes a designated color in a picture.
- Mark the picture that shows the opposite of the first picture.
- Practice writing alphabet letters.
- Practice writing numerals.
- Draw the correct number of shapes.
- Match the numeral to the correct set of objects.
- Write the numeral that comes next.
- Write the numeral that is missing.
- Read the days of the week and write the names of the days today, yesterday, and tomorrow.
- Follow the numbered dots.
- Draw a picture of each of the four seasons.

Sharon Watzman, Kindergarten
Georgetown Hill Elementary School, 1980-81

Pick-a-Puzzle

Activity bulletin board

Objectives: To build spelling, mathematics, reasoning, and language skills while having fun.

Materials: 12 red card pockets numbered and stapled in three rows sequentially onto a yellow background on a bulletin board; a numbered card placed in each pocket with puzzles and problems written on it; check-off sheet with students' names and card numbers listed

Sample problems:

- Who is left?

BABKUTECHRER Remove the bread man and a meat man is left. (butcher)

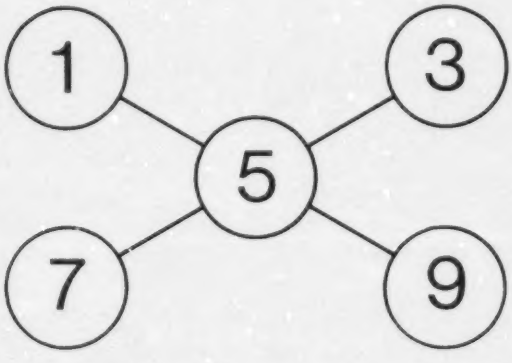
TAARUTTISHOR Remove the painter and a writer is left. (author)

- If today is Tuesday, is the day that follows the day that comes after the day that precedes the day before yesterday Monday? (yes)

- What's unusual about this paragraph? It looks so ordinary you might think nothing is wrong. In fact, nothing is, but it's unusual. Why? Look at it; study it. Think about it and you might find out. No doubt, if you work at it, it will dawn on you. Who knows? (There is no *e* in it.)

- If 3 apples are worth 2 oranges, how many oranges are 24 apples worth? (16)

- Put the first 5 odd numbers in circles so that the sum of each row of circles is 15.



- What years look the same upside down and right side up? (e.g., 1961, 1111, 1881)

- Begin with any number. Add 3. Double that result. Subtract 2. Take half of this. Subtract 2 again. What's your answer? (your number)

- Find the letters that spell a hidden state in each of the sentences:
  1. He was told to color a dog black. (Colorado)
  2. "Al, ask an intelligent question," Tommy said. (Alaska)
  3. The radio was on too loud. (Iowa)
  4. Miss, our ice cream is the best. (Missouri)
  5. Take your washing to Nick's laundromat. (Washington)

Intended for: Individuals

Directions/Procedures:

1. Have the student pick a card from the bulletin board.
2. Have the student read the puzzle and solve it.
3. Have the student check his/her answer with the student aide.
4. If the answer is correct, check off the card number next to the child's name.
5. The student aide changes the cards each week.

Jane Friedman, Grades 3-4
Brookhaven Elementary School, 1981-82

Snow White and the Seven Dwarfs

Class play

Objectives:

- To present a story in dramatic sequence so that it can be understood by an audience
- To participate in an orchestrated effort to put on a play

Materials: Script, music, scenery, props, costumes, program, and many human resources

Intended for: The entire class

Directions/Procedures:

1. Locate a script and music for the play in public libraries.
2. With the help of the children design and make all costumes and scenery and collect props.
3. Type scripts.
4. Work with the students individually and in groups on the following: learning and reciting lines; learning movements; singing songs (in groups and solo); and designing the cover of the program.
5. Type the program.

Kathryn Brophy, Grade 3
Cannon Road Elementary School, 1982-83

Mind/Motor Decathlon

A series of ten tasks or "events" requiring knowledge of some basic skills and ability to coordinate eye and hand to complete successfully

Objectives:

- To increase eye/hand coordination
- To learn to perform some everyday tasks
- To practice several basic skills

Materials: Tape; tin can open at one end; marbles; wire hook made from a clothes hanger; thin metal rod; two pieces of cork; string; small box of macaroni; chalkboard; chalk; paper clips; 24" x 24" board; ribbon; buckle; zipper; cloth with two buttons; cloth with two buttonholes to go with buttons; clothes hanger; ten clip-on clothespins numbered from one to ten; shoe strung with shoestring; nail; board; hammer; two ditto sheets with five blocks on each containing illustrated directions for each of the ten events; scissors; pattern for winner ribbon; glue; signs numbered from one to ten to be posted where each of the tasks are to be performed

Intended for: Each child, one at a time

Directions/Procedures:

1. Explain and demonstrate tasks to children in groups of six to eight:
   a) From two feet away, roll six marbles into a tin can taped to the floor.
   b) Fish for two corks connected by a metal rod and floating in a small pan of water.
   c) String the macaroni onto a string 14" long to make a necklace.
   d) Write your name on the chalkboard.
   e) Hook together five paper clips and then unhook them.
   f) Button two buttons; zip one zipper; tie one ribbon into a bow; and buckle one buckle (all mounted on a sturdy board with glue).
   g) Draw a circle, triangle, square, and rectangle on the chalkboard.
   h) Clip ten numbered clothespins onto a clothes hanger in sequential order, left to right.
   i) Tie a shoestring in a bow on a shoe that is nailed to a sturdy board.
   j) Cut out the blocks on the ditto sheets which represent the ten events and place them in order on the desk going from left to right.
2. Point out locations where tasks have been set up.
3. Distribute ditto sheets to children.
4. Have the children take turns performing tasks and recording their performance on dittos.
5. Have the children, using a pattern, cut out and wear a blue paper ribbon which says winner on red paper pasted at the top.
6. Give each child a lollipop as a reward for effort, hard work, and good sportsmanship.

Robin Burton, Kindergarten
New Hampshire Estates Elementary School 1982-83

Our Weekly Menu

Reading comprehension center—a unit on food

Objectives:

- To discover what will be served daily for lunch in the school cafeteria by reading the week's menu
- To copy a given lunch menu as a handwriting exercise to be shared at home if the student wishes to buy lunch at school
- To learn what foods constitute a balanced diet
- To learn that a balanced diet and exercise combine to contribute to physical health and fitness
- To bring to students' attention the food potential of a home garden

Materials: Two weekly school menus; sturdy paper or cardboard; colored construction paper; paste; magic markers; index cards on which are written questions or assignments relative to the food unit

Intended for: Groups under the guidance of the aide or individuals who can read independently

Directions/Procedures:

1. Using either a bulletin board or another type of laminated background, prepare a food center containing a title and decorated by pictures of foods labeled according food group (dairy, meat and fish, bread and cereal, fruits and vegetables). Cut two slits in which school menus are exhibited (front and back) and changed weekly. On the display, paste an envelope with index cards on which are written suggestions for activities or questions that go with the unit on food. Examples are:
   a) Copy the menu for May 12 or for one or more lunches that you may wish to order this week.
   b) Name some salad foods that you could plant in your garden.
   c) Tell what food groups the foods on your favorite menu belong to.
   d) Name as many ways as you can to raise your energy level (name at least two).
   e) How does being physically fit help you?
   f) Name at least two ways to become physically fit.

Andrea Ladestro, Grade 2-3
Flower Valley Elementary School, 1982-83

Gaithersburg, Old and New— A Slide Tape Presentation

Lesson on making slide tapes

Objectives:

- To learn the procedure for making a slide tape presentation
- To select major points of interest or parts of a story as topics for slides
- To arrange slides in appropriate sequence
- To describe slides or tell a story on tape recorder to accompany the showing of slides

Materials: Slide frames; slide plastic inserts and slide paper (available from media specialists); scissors; pencils; writing paper; cassette tape; colored pencils; bell

Intended for: Small group of students (about eight)

Directions/Procedures:

1. Decide with the students how many slides each student will make (there were five in this case).
2. Have the students select topics for the slides.
3. Have the students draw pictures on slide paper.
4. Have the students paste a plastic insert on top of the slide paper.
5. Have the students color over the pictures with colored pencils.
6. Have students cut pictures to fit in the slide frame.
7. Have the students put slides in the frames and number them according to the order they will appear in the presentation.
8. Have the students insert the slides in the slide projector in the correct order.
9. Have the students write about each slide.
10. Have one student tape the script while another rings a bell to tell the operator to advance the slides.
11. Send the slide tape to the Spring Film Festival (check with media specialist for details).

Pam Walker, Grade 2
Mill Creek Towne Elementary School, 1982-83

Mathematics

The projects to develop mathematical concepts are presented in original forms conceived to capture the interest of the children and keep them motivated. Requirements range from recognition of colors and simple shapes to recognition of arithmetic signs followed by appropriate problem-solving behavior. Math skills are tested and practiced in board games, athletic races, and treasure hunts. Children are asked to match and count in Arabic and ordinal numbers using flannel board techniques and hanging paper dolls.

There is a board game for younger children requiring the placement of 55 lima bean rabbits in 8 separate cabbage patches to improve matching and counting skills. Paper plate clocks are constructed to help with telling time, and children are asked to match wits in a button reflex game demanding quick solutions to simple addition exercises. A few projects appearing at the end of the reading/language arts section are multidisciplinary in nature and also cover math techniques.

Race to the End

Math activities board game

Objective: To apply math skills children have learned

Materials: Game board in the shape of a large jungle bird standing in water. Path from start to finish winds on the bird's body and contains color-coded spaces to match question cards. Tokens are needed. On several spaces, players encounter situations which affect the next move, such as:

- Stung by bee; miss 2 turns
- Stop to cool off. Miss a turn.
- You're a genius. Go ahead 5 spaces.
- Rest area; miss a turn.
- Off to a bad start; take another turn.
- Scared by a monster. Miss a turn.
- Bit by a mosquito; stop to scratch.

Eight sets of color-coded questions such as:

- pink—spell math vocabulary (examples: addition, division, subtraction, etc.)
- dark blue—addition problems (example: 7 + 14 = _____)
- white—subtraction problems (example: 96 − 72 = _____)
- green—division problems (example: 48 ÷ 8 = _____)
- red—multiplication problems (example: 7 x 6 = _____)
- light blue—word problems (example: Mary had 12 apples. She gave 4 to her friend John and 5 to her friend Betty. How many apples does Mary have left?)
- peach—identification of symbols (example: What does the symbol ± mean?)
- medium blue—measurements (example: _____ quarts = 1 gallon)

Intended for: Two players

Directions/Procedures:

1. Each player throws the die. The higher number goes first.
2. The first player throws the die and moves the number of spaces indicated.
3. The other player draws a card from the colored pile that matches the color of the space the first player landed on, and reads the question to his/her opponent.
4. If the first player answers correctly, he/she moves ahead two spaces. If the answer is incorrect, he/she moves back three spaces.
5. The first player to reach *finish* wins.

Will Verbits, Grade 3
Burtonsville Elementary School 1979-80

Another Approach to Develop Similar Objectives

Game board with spinner requiring only addition and subtraction problems

Susan Bates, Grades 2-3
Lynnbrook Elementary School, 1980-81

When Is Your Birthday?

Graph showing the birthdays of each child in the class

Objectives:

- To understand and "read" a graph as it presents data visually and in categories
- To learn when one's birthday is
- To learn a number of basic concepts such as most, least, first, middle, last, same.
- To arrange birthdays chronologically by month and by dates
- To see the months of the year arranged in sequence
- To use a graph to demonstrate basic concepts
- To use a graph as a vehicle for counting and ordinal numbers

Materials: Large cardboard chart with the months of the year listed vertically in chronological order on the left side starting with January and with numerals from one through six (or more if needed) listed horizontally along the bottom; small paper birthday cake (to fit on the chart) for each child indicating the child's name and the numeral which

represents the day of the month on which he/she was born

Intended for: Whole class, small groups, or individuals

Directions/Procedures:

1. Review the months of the year with the group.
2. Record each child's name and birthday on a small paper cake.
3. Ask children for their birth dates and check the answer with the correct information on the appropriate cake (to determine which children do not know their birthdays).
4. Distribute cakes to several children each day (alphabetically) and ask the children to help determine where the cakes belong on the graph. The children tape the cakes on the graph to be rearranged chronologically (by number, left to right) when all cakes have been added.
5. Use the birthday graph as a tool to solicit answers to questions such as:
   a) Which month has the most (or least) birthdays?
   b) Whose birthday comes first in the new year?
   c) Who has the last birthday of the year?
   d) How many birthdays are in the first (or last) month of the year?
   e) How many birthdays are in _____?
   f) Which month has exactly _____ birthdays in it?
   g) Which months have the same number of birthdays in them?
   h) In the month of _____, whose birthday comes last (first, second, in the middle)?

Valerie Banks, Kindergarten
Greenwood Elementary School, 1982-82

Farmer Brown's Cabbage Patch

Matching and counting activity

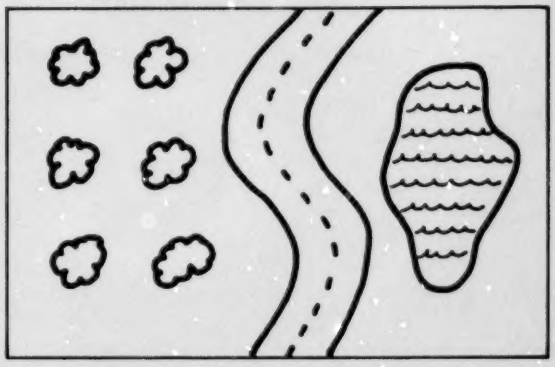
Objectives:

- To develop concepts of matching numbers to sets
- To develop the ability to count from 1 to 10
- To develop the ability to arrange numbers sequentially

Materials: 10 game boards, 5½" x 8½", each showing a section of Farmer Brown's farm with different numbers of cabbage plants from one to ten, i.e., one card would show one cabbage, another two, etc. (see example 1); 55 game pieces (in this case bunnies: body made of dry lima beans, glued-on tail made of goya bean, white felt ears glued on to figure which was spray painted in pink; see example 2); 10 counting numbers from one to 10 (see example 3) on separate cardboard chips 1½" x 1½"

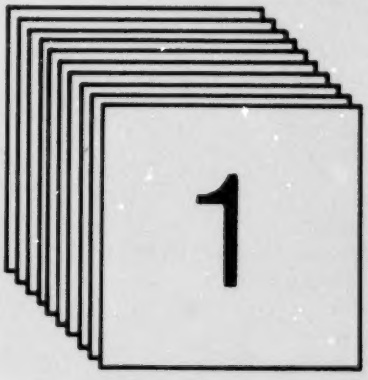
Intended for: One to four players

Example 1



Example 2

Example 3



Directions/Procedures:

1. The players spread out the ten game boards.
2. They distribute the counting numbers evenly, removing leftovers.
3. Each player selects the game boards that match his/her counting numbers.
4. Players place each counting number on the matching game board.
5. Each player counts a matching number of game pieces and places them on the cabbages on the game boards.
6. Together the players place the game boards in numerical order (1-10).
7. The players ask the teacher/aide/leader to check the layouts for accuracy.

Leslie Smith, Kindergarten
Carderock Springs Elementary School, 1981-82

Airplanes and Hangars

Addition practice tool/game

Objectives:
- To solve simple addition equations

Materials: 12 small plastic airplanes; bendable cardboard; fine point magic markers; thick cardboard or wood, box for storage of airplanes. Six airplane hangars of graduated sizes are constructed by bending the light cardboard pieces into an arch or curved roof and attaching the arch to a solid piece of wood or heavy cardboard. The numeral 10 is written prominently on the roof of the largest hangar, the numeral 9 on the next largest, and so on down to 5. Each airplane has an incomplete equation written on its wings. Six of these will have a 1 as one of its numerals and six will be more difficult. There will be two airplanes for each hangar as determined by the answers to the equations on their wings. Example of problems on wings:

Hangar 10: 1+9=_____; 5+5=_____
Hangar 9: 1+8=_____; 2+7=_____
Hangar 8: 1+7=_____; 4+4=_____
Hangar 7: 6+1=_____; 7+0=_____
Hangar 6: 5+1=_____; 3+3=_____
Hangar 5: 4+1=_____; 2+3=_____

Intended for: One or two students at a time

Directions/Procedures:

1. The children arrange hangars left to right in a line from smallest to largest and read the numerals on each one along the line.
2. Emphasize chronology from 5 to 10 and how the size of the hangar increases by steps as each numeral increases by 1.
3. The children select an airplane which has a 1 in the problem written on its wings. They solve the problem and seek the hangar which shows this sum (counters may be needed to help with finding answers). The children fly the airplane into this hangar and repeat the procedure until all airplanes containing the numeral 1 on their wings have been landed in the appropriate hangars. (There should now be one airplane in each hangar.)
4. The children fly the other airplanes containing the more difficult equations into the hangars which show their solutions.
5. When all airplanes have been landed in the appropriate hangars, there should be two in each.
6. The children repeat the exercise or store hangars together (all fit into the large one like a stack of graduated blocks). Place airplanes in the smallest hangar or in a box designated for their storage.

Ann Werth, Kindergarten
Westbrook Elementary School, 1982-83

Colors and Geometric Shapes

Mobiles

Objectives:
- To name colors and geometric shapes
- To listen to and follow directions

Materials: five simple geometric shapes (the circle, triangle, square, vertical rectangle, horizontal rectangle), each appearing in nine basic colors (red, orange, yellow, green, blue, violet, brown, black, white) hanging from the ceiling

Intended for: A flexible number of children

Directions/Procedures:

1. Instruct each child to follow the teacher's directions to stand under one of the hanging mobiles, for example:
   - a green triangle
   - a red rectangle
   - a red rectangle next to a green square
2. The child will name the color and shape of the figure under which she/he has been directed to stand.

Terri Trammell, Kindergarten
Fox Chapel Elementary School, 1981-82

Another Approach to Develop Similar Objectives

A book of cut-out colored shapes pasted to form pictures of familiar objects. In addition to helping children learn the names of colors and shapes, this activity provides experience in assembling parts (shapes) into a whole configuration such as: a house, a wagon, a person, a train with smoke, etc.

Rae Ann Lumpkin
Children ages 3-5 years
Preschool Education Program (PEP)
Stephen Knolls School, 1982-83

Telling Time

Constructing and using paper clocks

Objectives:
- To learn to follow directions
- To become acquainted with the dial of a clock
- To learn to read the clock on the hour and the half-hour

Materials: Paper plate for each child (with a small hole at the center); two heavy cardboard cut-out arrows of different lengths for each child representing the hour hand (short), and the minute hand (long), each arrow having a small hole at the straight end; metal brad for each child

Intended for: Individuals or groups (group size flexible)

Directions/Procedures:

1. Have children follow directions by numbering the hours of the clock on a paper plate.
2. Have children secure arrows into place at the center of the plate with a metal brad.
3. Have children practice setting the hands on the hours and half-hours according to direction.

Comments: This project is the initial stage of a series of time-telling lessons. Eventually, the minute lines may be added, and more difficult times may be directed and read.

Amy Aronow, Grade 1
Potomac Elementary School, 1979-80

Math Relay Race

Game

Objective: To increase speed in solving simple math addition and subtraction problems

Materials: 1 answer box, 2 problem boxes, at least 24 index cards (3" x 5") containing simple addition and subtraction problems from 1 to 10

Intended for: 12 to 20 players

Directions/Procedures:

1. Form two teams of six to ten players.
2. Appoint two judges to supervise the game.
3. Judges divide the problem cards and place them equally in two problem boxes.
4. Assign one problem box to each team and place on either side of the answer box.
5. Station one judge at a distance of 2 to 3 feet from each problem box.
6. Line up the teams in relay race formation, approximately 20 paces from the boxes.
7. At the signal, the first person on each team races to the appropriate problem box, takes a card, solves the problem, tells the judge the answer, and places the card in the answer box. If the answer is correct, the judge nods his/her head and the player proceeds back to his/her team and taps the second player to take his/her turn.
8. If the answer to the problem card is incorrect, the judge shakes his/her head "no," and the player takes a second card from the answer box. Whether the answer is correct or not, this time the player throws the card in the answer box and races back to let the next player have his/her turn.
9. Play continues until one team has won by having each of its players finish a turn.

Peter Halpert, Grades K-1
Lynnbrook Elementary School, 1981-82

Ordinal Numbers

Flannel-board counting/position lesson

Objectives:

- To learn to apply ordinal number vocabulary to counting skills
- To identify the physical position of a given object in relation to other objects

Materials: Flannel board, ten flannel board pieces (may be the same, such as all ducks or all shapes, etc., or may be different)

Intended for: Small groups

Directions/Procedures:

1. Introduce or review ordinal vocabulary (1st through 10th)
2. Count flannel board pieces and place in ordinal positions.
3. Point to objects in specific positions.
4. Remove objects from specific positions or place objects in specific positions.
5. Ask questions about the setup. For example, when using different animals, ask, "Where is the cat?" etc.

Comments: From these and other flannel-board exercises, the children can progress to other ordinal activities such as lining themselves up or lining up objects in the room or commenting on how objects are arranged, etc.

Tricia Mullinix, Kindergarten
Damascus Elementary School, 1979-80

Button Pull

Objective: To increase speed in adding two numbers from 2 to 12

Materials: A button tied on the end of a two-foot piece of string for each player, ten counters for each player, one funnel for the leader of the round, one pair of dice for the leader of the round

Intended for: Four to six players

Directions/Procedures:

1. Select a child to be leader for the first round and give him/her the dice and the funnel.
2. The leader rolls the dice to determine one number from 2 to 12 for each round of the game.
3. Each player, except the leader of the round, puts his/her button in the center of the table.
4. The leader places the funnel within reach and rolls the dice. When a combination comes up that adds up to the number selected at the start of the round, the leader tries to catch the buttons in the center of the table with the funnel before the other players pull them out of the center.

5. Any player whose button is caught must give the leader a counter.

6. If a player pulls a button when the dice do not add up to the selected number, this player must give every other player a counter.

7. Each player in turn becomes the leader for a round.

8. The game ends when one player runs out of counters.

9. The winner is the player with the most counters.

Ed Marklin, Grades K-i
Lynnbrook Elementary School, 1981-82

Wiggly Worm's Birthday Party

Math addition or subtraction board game

Objectives:

- To add or subtract two numerals that appear on a pair of tossed dice
- To move a token on a game board the number of spaces called for by adding or subtracting numerals on dice

Materials: Heavy cardboard for game board; wiggly path of 110 squares drawn on game board and extending from the square labeled *start* to the *finish* area, where birthday props such as balloons, cakes with candles, flowers, grass, and a small toadstool house are illustrated; one pair of dice; four worm playing pieces made of cardboard and decorated with different colored paper designs.

Intended for: Two to four players

Directions/Procedures:

1. Decide whether the numerals appearing on the tossed dice are to be added or subtracted during the game. If subtraction is selected, the smaller numeral is to be subtracted from the larger one.

2. The players move the worm pieces along the path on the game board according to the sum or difference of the numerals appearing on the tossed dice.

3. The players follow directions which appear next to some of the squares along the way such as:

a) Sun comes out. Go back 5 spaces.

b) You are chased by a bird. Go back 6 spaces.

c) You fall in hole. Go back 3 spaces.

d) It begins to rain. Go forward 4 spaces.

e) You drop birthday gift. Go back 10 spaces.

f) You meet a friend. Go forward 3 spaces.

g) You stop for a drink. Go back 5 spaces.

h) You stop to rest. Skip next turn; it's a long trip for a worm

Donna Smith, Grade 2
Mill Creek Towne Elementary School, 1982-83

Apple-Picking Time

Math board game

Objectives:

- To read and respond to a numeral appearing on a die by moving a token on a game board path the number of spaces designated on the die
- To count and pick apples as they have been earned during the game

Materials: Hard poster board; black marker; crayons; knife; scissors; laminating materials; one red token; one green token; one hexagonal die with a different number from one to six on each side. On the game board is a path containing 36 squares from start to finish. The path is drawn up the trunk and around the perimeter of a large green apple tree. Scattered among the green leaves of the apple tree are 12 green and 12 red cardboard apples which have been inserted into slits that have been cut in this part of the tree. Thirteen of the squares have been labeled with numerals/pictures of red or green apples or have a picture of a worm on them.

Intended for: Two players

Directions/Procedures:

1. Each player selects either a red or a green token.

2. Beginning at the start of the path, the first player rolls the die and moves the token the number of spaces indicated. The token will land either on a blank space, on a space with a numeral on it combined with a red or green apple, or on a space with a picture of a worm on it.

3. If a child with a red token lands on a red apple space, he/she picks the number of red apples that are indicated on this square. If this same child lands on a space with a numeral and a green apple, no apples may be picked. Similarly, the child using the green token may pick green apples when landing on green apple spaces but no apples when landing on spaces picturing red apples. Any player landing on a space with a picture of a worm on it must return one of his/her apples to the tree.

4. The winner is the player with the most apples after both players have reached the finish line and the apples have been counted.

Virginia Kotter, Grade 1
Weller Road Elementary School, 1982-83

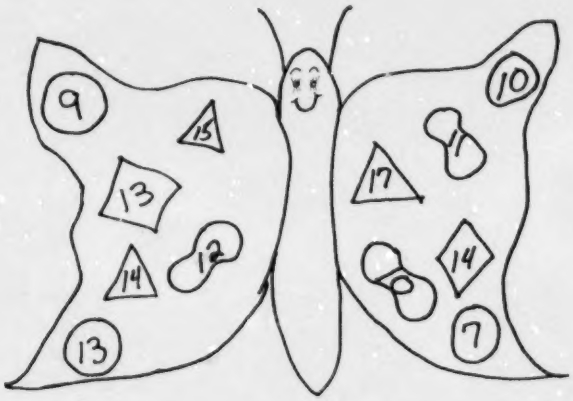
Match the Problems with the Answers in Buffy, the Butterfly

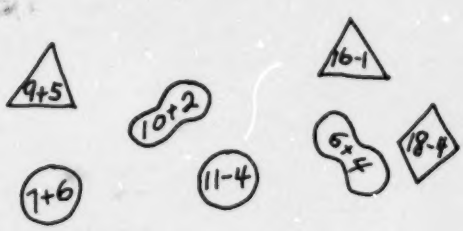
Problem-solving and matching activity

Objective: To improve math problem-solving and/or matching skills

Materials: A large butterfly made of construction paper or heavier material. On the wings are painted different shapes. Inside each shape is the numerical answer to a math problem. A set of 12 cards is cut to match the outlines on the butterfly wings. Each card contains a different math problem.

Intended for: One or two children





Directions/Procedures:

1. Each child selects a shape card.
2. The child computes the numerical answer.
3. The child places the card on the correct butterfly outline. This both contains the correct answer and matches the shape of the question card.
4. The children continue until all shape cards are placed on the butterfly.
5. Teacher/aide checks accuracy.

Comments: In order to make this activity challenging, there are duplicate shapes on the butterfly, each containing a different numerical answer. In order to make the butterfly background more versatile, different numerical answers can be taped over the originals for additional sets of math problems.

Wanda Hopp, Grade 1
Glen Haven Elementary School, 1980-81

Other Approaches to Develop Similar Objectives

- "Educational Dog" has addition and subtraction problems on a disc which turns. The answers appear in the dog's eyes.

Diane Lewis, Kindergarten
Woodfield Elementary School, 1980-81

- Treasure hunts for natural objects (e.g., rocks) or blocks which have been numbered are followed by adding or subtracting numerals when two numbered objects are found. A prize is awarded when the answer is correct.

Angela Matthews, Grade 1
Forest Knolls Elementary School, 1980-81, 1981-82

Clothesline Paper/Cloth Dolls

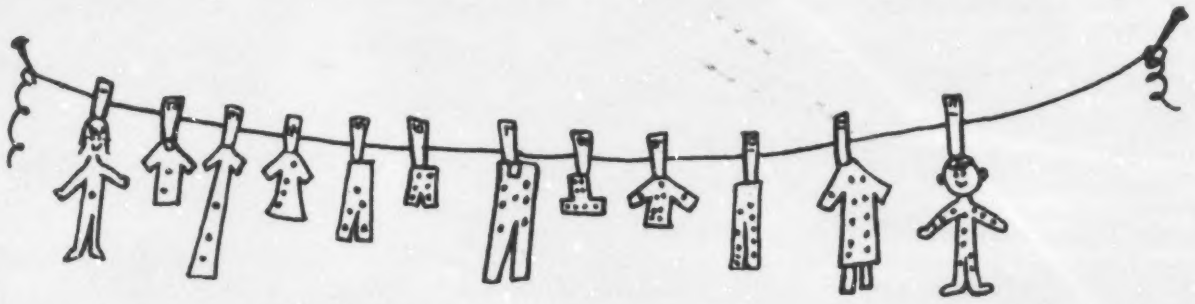
Matching and counting activity

Objectives:

- To develop the concept of matching numbers to sets
- To develop the ability to count from 1 to 10
- To develop the ability to arrange numbers sequentially

Materials: 1 boy and 1 girl paper or 2-dimensional cloth doll, one with 1 dot on it and one with 12; 10 objects of clothing (paper or cloth), each containing from 2 to 11 dots (the dolls and clothes should have a 2" tab at the top for hanging); clothesline 2 to 3 feet long hung within easy reach of the children; 12 clip-on clothespins, each marked with a different numeral from 1 to 12

Intended for: One or two participants



Directions/Procedures:

1. Divide dolls and clothes evenly.
2. Hang the doll with one dot at the far left of the clothesline, using the clothespin having the numeral 1 on it.
3. Proceed by hanging the figures in numerical order with matching clothespins until all figures are in sequential order on the clothesline. Check with the teacher/aide for accuracy.

Pattie Bettencourt, Kindergarten
Meadow Hall Elementary School, 1979-80

Social Studies

As social studies covers a broad range of topics to consider, so do the projects developed by the student aides. Cultural awareness is sought through the medium of a play while features of our national capital are presented in map-line formation at a learning center in the classroom. A bulletin board format is used to explore a social problem and also to present a "Who's Famous for What?" game. A foreign country "comes to life" during an entire school day set aside to enjoy the fruits of learning, and a community helper pays kindergartners a visit to reassure them of her help in a time of crisis. The younger children are encouraged to explore the five senses as ways of learning about their world and to recognize themselves as unique persons as they compile their own book, *All About Me*. The many hours devoted to these projects reflect the students' strong interest in the children and their learning.

When I Grow Up

Learning center with bulletin board and career game

Objectives:

- To help students identify certain jobs by their descriptions
- To help students learn about their interests, abilities, values, and aspirations

Materials: Library books about careers and jobs; bulletin board, "When I Grow Up," showing a young person dreaming about certain jobs as indicated by pictures with labels; a bingo type of game with boards naming specific careers and cards for the leader describing the nature of the work involved in the careers named on the boards

Intended for: Small groups of six to eight children

Directions/Procedures:

1. Have students read about selected careers.
2. Have students discuss them.
3. Distribute game boards and chips.
4. The leader reads a job description.
5. The students look on their boards for the job that has been described. If the job is there, the student covers it with a chip.
6. The winner is the first one to cover an entire line of jobs on his/her card.

Denean Dodson, Grades 2-3
East Silver Spring Elementary School, 1981-82

All About Me

Individual books made by and about each child

Objectives:

- To recognize the characteristics which make an individual unique
- To describe the school environment
- To describe one's own family
- To strengthen one's self-concept

Materials: See Appendix A for materials needed and the procedures for binding books. For this project, a note was sent to the parents of each child asking for donations of fabric for the book covers.

Intended for: Each child

Directions/Procedures:

1. The child draws at least one picture on story paper for each of the following topics:
   a) himself/herself
   b) his/her family
   c) his/her school
   d) his/her friends
   e) his/her favorites: game, food, book, song, TV show, movie, etc.
2. The child dictates one or more sentences to the student aide, teacher, or other helper for each picture.
3. The child assembles and binds the material into a book (see "Materials" above).

Laura Ganey, Kindergarten
Wheaton Woods Elementary School, 1979-80

Other Approaches to Develop Similar Objectives

- Bulletin board entitled "The Real Me" displays one piece of construction paper for each child. On the paper are pasted cut-out pictures and words which the child has selected to describe himself/herself.

Sharon Chapman, Grade 3
Beverly Farms Elementary School, 1980-81

- "Being Yourself" was an original story written and illustrated with paintings by the student aide and presented to the class in a book to be read to or by them. The moral of the story is to be happy about what you are because you are one of a kind and are unique.

Wendy Singer, Grade 1
Glen Haven Elementary School, 1979-80

Touch and Smell

Social studies center

Objectives:

- To identify ways in which one learns to discover and express new meanings about objects in the environment through sensory experiences
- To identify objects by touch or smell

Materials: A set of plastic sandwich bags, each of which holds a sample substance having a distinctive odor to it and secured by a rubber band at the top; lunch bag to contain sandwich bags so that the contents cannot be seen; saltine cracker boxes cut in half with a sock stapled to the top and containing objects to be identified only by touch; substances to be identified by smell, such as peanut butter, baby powder, perfume, popcorn, pepper; substances to be identified by touch such as popcorn kernels, uncooked pieces of spaghetti, cotton balls, sandpaper, a rock, a seashell

Intended for: Individual children, one at a time

Directions/Procedures:

1. One child reaches into the lunch bag.
2. The child selects a sandwich bag by touch.
3. The child removes the rubber band without looking (with the help of student aide).
4. Holding sandwich bag at the top of the lunch bag, the child smells it and tries to identify its contents.
5. The child replaces the rubber band.
6. Continue with children taking turns until all substances have been experienced.

The student aide records the responses of each child. When four to six children have completed the exercise, the student aide gathers the group together, and the contents of the lunch bag are examined and discussed. Children are invited to bring their own "mystery smells" in sandwich bags for additional experiences in identification by smell. Touching Exercise: the touching exercise is conducted in the same way as the smelling exercise above.

Comments: Using the senses to learn about the environment is also a science objective.

Kelly McIlvaine, Kindergarten
Cashell Elementary School, 1981-82

Another Approach to Develop Similar Objectives

A half-hour session for the entire class, divided into five groups. Each group participates in an exercise using one of the five senses. The lesson is repeated until all children have experienced all five of the following activities:

Seeing. Children walk a taped line on the floor, first without a blindfold and next with a blindfold.

Smelling. Substances are presented to blindfolded children for smelling and identification.

Hearing. Sounds to be identified (musical instruments, etc.) are presented to children behind their backs.

Tasting. Samples are presented for tasting and identification to blindfolded children.

Touching. Objects are placed in a bag. Children identify them without looking in the bag.

Pat Conlon, Grades K-1
Cashell Elementary School, 1980-81

A School Day in Pennsylvania Dutch Country

Original play

Objectives:

- To deepen the understanding of a selected community in the United States
- To portray the Amish community through drama
- To improve skills and attitudes involved in implementing this project

Materials: Scenery, costumes, props

Intended for: The entire class

Directions/Procedures:

1. The students write the play.
2. The students read the play (the student aide did this).
3. The students decide on the scenery, costumes, and props needed and assign responsibility for producing them.
4. The students try out for parts (the student aide and teacher make the final selection).
5. The students learn their parts.
6. The students rehearse.
7. The students write invitations to the audience.
8. The students present the play.

Comments: The play takes place in an Amish home, in the schoolyard, and in the one-room schoolhouse. The costumes and scenery depict the Amish environment. Through the actions and dialogue of the children and their teacher, one sees a life of very hard work at home and at school with emphasis on consideration for others and good manners. Religious instruction is included in the rigid school agenda. Even in this strict setting, children remain childlike, maintaining their interest in play and pranks, but not without punishment.

Julia Ernst, Grade 2
Jackson Road Elementary School, 1981-82

Mystery People

Bulletin board game

Objectives:

- To associate the names of 13 famous Americans with symbols which have come to represent them or their contributions to the world or to their country
- To aspire to making a positive contribution to society some day

Materials: 13 separate names printed in large capital letters and displayed vertically on the far left of a large bulletin board; 13 pictures of objects, each representing one person, displayed randomly on the rest of the bulletin board. The names and objects are:

Columbus	globe
Betsy Ross	American flag
Daniel Boone	coonskin cap
Ben Franklin	kite/metal key
Clara Barton	medical supplies
John Hancock	feather pen and ink
Dr. Jonas Salk	vaccine injector
Noah Webster	dictionary
Albert Einstein	mathematical formula
Abraham Lincoln	top hat
George Washington	chopped-down cherry tree
Alexander Graham Bell	telephone
George Washington Carver	peanut

Intended for: Individuals

Directions/Procedures:

1. Have the student read the names on the bulletin board.
2. Have the student study the pictures on the bulletin board.
3. Have the student match each name with the picture which has come to be associated with it.
4. Have the student select a person to do further research on.
5. Have the student report on his/her research to the class.

After the bulletin board has been displayed for at least a week, answers should be provided. One way of doing this would be to attach long pieces of yarn and a thumbtack to the right of each name for students to connect to the appropriate picture. Tack an envelope to the bulletin board containing a diagram of the correctly executed solution.

Comments: This project could be used as a culminating activity to a unit of study or as an introductory activity to stimulate interest.

Mary Gaskin, Intermediate Special Education
Kensington Elementary School, 1979-80

Fiesta Day

Follow-up activity for a unit on Mexico

Objectives:

- To display and review the characteristics of Mexico as reflected in its natural and cultural features
- To make Mexico "come to life"

Materials: Room decorations made of colored construction paper, colored tissue paper flowers, paper-covered flower cart, pinata filled with candy, food for making tacos and tortillas, recordings of Mexican music, Mexican films, other Mexican artifacts as available

Intended for: The entire class in groups of two or three

Directions/Procedures:

Before Fiesta Day:

1. The entire class selects a day to dedicate to the learning and doing of things about Mexico (Fiesta Day).
2. Two weeks in advance, groups of two or three children begin studying selected characteristics of Mexico and preparing projects on them.
3. The day before the fiesta, the children decorate the room. They place the desks in a large square outlining the room, each covered with various colors of construction paper, a flower cart filled with tissue paper flowers, etc. (all made by the children).
4. Some children draw a large map of Mexico on chalkboard or chart and label major areas as outlined in the curriculum guide.

On Fiesta Day:

1. The students share Mexican reports and projects made by groups.
2. The students complete worksheets prepared as a review of the Mexican unit.
3. The students play Mexican games.
4. The students see films related to Mexico.
5. The students make tacos and tortillas for lunch. (Children donate $1.00.)
6. Mexican music should be played in the background.
7. The students do a Mexican dance.

Donna Lytle, Grades 2-3
Bells Mill Elementary School, 1980-81

Fire Safety

Visit from a fire fighter

Objectives:
- To become aware of fire safety procedures during a fire
- To see fire fighters' protective equipment and hear about its features
- To recognize fire fighters as being friendly helpers

Materials: Fire fighters' gear, film about fire safety, junior fire helmets, fire safety coloring books. All materials are obtainable from Bethesda Fire Department Public Relations Committee (654-0655).

Intended for: The entire class

Directions/Procedures:
1. The students try on junior fire helmets and listen to the fire fighter describe its value.
2. The students observe the fire fighter as he/she puts on all the fire gear and explains its functions. (The fire fighter in this case was the student aide for this classroom.)
3. The students watch a film with Donald Duck characters which explains safety behaviors appropriate during a fire.
4. Each student colors in a coloring book which summarizes fire safety procedures.
5. Each student takes a fire hat and coloring book home.

Laura McGill, Kindergarten
Georgetown Hill Elementary School, 1979-80

Washington, D.C.

Learning center

Objectives:
- To identify selected landmarks of Washington, D.C., center of our national government
- To associate landmarks with notations on a map

Materials: Pictures of the Capitol, Washington Monument, Jefferson and Lincoln memorials, and the White House as they appear on a map, with facts about each appearing beneath the pictures. An envelope pasted under each set of facts contains questions about them. Answers to questions are contained in envelopes pasted to the back of the posterboard. Dittos of pictures of the buildings are to be used to identify them.

Intended for: Individuals

Directions/Procedures:
1. The student studies pictures of some of Washington's landmark buildings.
2. The student reads about each on the chart.
3. The student reads and answers the questions in the envelopes.
4. The student checks answers with those contained on the back of the poster.
5. The student completes dittos on picture identification.

Comments: These activities could be used in connection with a field trip to Washington, D.C., to see these landmarks.

Susan Bates, Grades 2-3
Lynnbrook Elementary School, 1980-81

Global Education

Bulletin board

Objectives:
- To review characteristics of several countries that have been studied
- To find creative solutions to a problem faced in certain areas of the world
- To display information and solutions graphically and artistically

Materials: Drawing and painting materials, artwork created by children, graphs and charts, written work

Intended for: The entire class, with each child contributing in some way

Directions/Procedures:
1. Select a country that has been studied and have students present it on a bulletin board through artwork (flag, clothing, housing, etc.) and give population statistics.
2. Have students make graphs using world population statistics.
3. Have students write a proposal or list steps to be taken to provide for people who live in overpopulated areas of the world. Have students draw pictures where appropriate.
4. Have students assemble materials in a bulletin board presentation.

Kenny Cudd, Grades 5-6
Four Corners Elementary School, 1979-80

Do You Know How to Use the Calendar?

Permanent calendar and set of questions about it

Objectives:

- To use the calendar as a reference to discover the date and other facts about the months and year
- To develop a sense of time and chronology

Materials: Mat board, water soluble pen; laminating material; large manila envelope; colored magic markers, pencils, or crayons; index cards; bulletin board

Intended for: The entire class, groups, or individuals

Directions/Procedures:

1. On mat board design a skeleton calendar using a matrix having seven columns for the days and five rows for the numbers. Above the columns write the days of the week left to right starting with Sunday. Leave the squares blank to be filled in each month with water soluble pen after the calendar has been laminated. A blank space is provided at the top for the name of the month.
2. Mount the calendar on a bulletin board or wall in the classroom where it can be surrounded by notices, invitations, pictures, and information pertinent to the current month.
3. Next to the calendar, mount a large envelope containing index cards on which are written questions about the month such as:
   a) What month is this?
   b) How many days are in this month?
   c) On what day does this month begin?
   d) What date is the third Saturday of the month?
   e) The 15th of the month falls on what day?
   f) In what season is this month?
   g) Choose which climate this month is expected to have—hot, warm, cool, cold.
4. Decorate the outside of the envelope with pictures which illustrate outdoor signs of the four seasons of the year. Examples: fall, a tree losing its colored leaves; winter, a snowman with snow falling; spring, showers falling on flowers in bloom; summer, trees in full leaf, hot summer sun, ice cream parlor.

Pam Walker, Grade 2
Mill Creek Towne Elementary School, 1982-83

Science

The study of science has inspired a number of student aides to select this area of the curriculum for their individual projects. Their interest in developing science vocabulary and scientific investigative techniques is reflected in the centers they have prepared and the field trips they have planned and conducted. Children are encouraged to investigate the feel, sight, sound, taste, and smell of their world and to report their findings using scientific terms. They have been exposed to the care and nurturing of plants and animals, and have confirmed their information through observation and investigations or experiments. Children have observed animals, plants, and insects in their habitats at the zoo, on the farm, and on the school grounds. Information about science careers and sources of food have emerged through the various experiences. Question and answer games, centers, and assessment items have been employed to confirm what has been learned or to indicate what needs more exposure. Finally, upper primary children investigate the position of the planets relative to the sun.

Judging from the reports of enthusiastic participation by children, the student aides' projects have supported the science curriculum in a very positive way.

The Family of the Sun

A question and answer science center

Objectives:

- To name the planets and state their position in relation to the sun
- To read and answer questions about some characteristics of the planets

Materials: A posterboard chart illustrating the sun and the planets and their relative proximity to the sun, and containing facts about each beneath their pictures; lists of questions about each planet

Intended for: Individual children (who may be within a group in a center situation)

Directions/Procedures: The children study the chart, read the stories about each planet, and answer the questions provided.

Susan Bates, Grades 2-3,
Lynnbrook Elementary School, 1980-81

University of Maryland Experimental Dairy Farm Field Trip

Objectives:

- To see the source of milk and the process of extracting it
- To observe the care and feeding of dairy cows
- To observe the appropriate use of laboratory materials and equipment
- To be introduced to a specific career in science
- To taste and enjoy a product made with milk and cream (ice cream)

Intended for: The entire class

Location: University of Maryland Dairy Barns; College Campus, College Park, Md. (To arrange guided tours: 454-3935); and Turner Laboratory, Dairy Salesroom (To order ice cream in advance: 454-4521)

Directions/Procedures: See Appendix C for field trip procedures.

Procedures for Student Aides:

1. Visit the site before the trip and discuss the level of the students with the guide.
2. Make all field trip arrangements
3. Take children's ice cream orders in advance and call them into the dairy salesroom before the day of the trip.
4. Conduct a discussion with students about the trip and review what was seen.
5. Have children plan and contribute to a mural depicting the trip.

Procedures for students:

1. Follow directions carefully from departure to return.
2. Have disciplined behavior.
3. Look and listen to events as they occur. Be a good observer.
4. Participate in follow-up activities with enthusiasm.

Nike Kavoures, Grade 2
Glen Haven Elementary School, 1979-80

National Zoological Park

Field trip

Objectives:
- To observe the behavior of animals
- To observe relationships between an animal and its habitat
- To identify animals by name

Intended for: The entire class

Location: 3001 Connecticut Avenue, N.W.
Washington, D.C.
Information tape: 673-4800
Guided Tour Reservations: 673-4955
Specific information not on tape: 673-4717
Friends of the National Zoo (FONZ): 673-4955 (brochures available)

Directions/Procedures: See Appendix C, "Field Trips in Montgomery County Public Schools."

Procedures for Student Aides:

1. Consult with the teacher to plan the trip and to identify related science objectives.
2. Visit the zoo to select the appropriate itinerary.
3. Tie objectives into the curriculum (such as through a circus project to be developed in the late spring).
4. Check on the cost of the trip per child.
5. Arrange for transportation and food, and determine the location of facilities.
6. Obtain parental permission and recruit chaperones.

The letter to parents follows.

_____ Elementary School
_____, Maryland
Date

Dear Parents:

The K-1 Team is planning a trip to the National Zoo on _____, 19____. The zoo trip will be related to our science curriculum and to our circus project happenings in June. The first graders and kindergartners will be attending this trip. We will be leaving at 9:30 a.m. and returning at 1:30 p.m. *Kindergartners must be picked up at 1:30.* Both classes must bring a bag lunch, *NO LUNCH BOXES.* A drink will be provided. There is a charge of $2.00 per child to cover school bus transportation.

I'm looking forward to seeing everybody going.

Sincerely,

_____

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Procedures for students:

1. Get parent's signature on permission slip and return it to the teacher/student aide.
2. Bring lunch according to directions.
3. Conduct one's self in a controlled manner on the bus and at the zoo.
4. Follow directions of teachers and chaperones.
5. Look, observe, and listen to what is happening.
6. Participate willingly in follow-up activities.

Peter Halpert and Ed Marklin, Grades K-1
Lynnbrook Elementary School, 1981-82

Similar Approaches to Develop Objectives with Different Follow-up/Related Activities

• Each child selected one of the animals which had been observed at the zoo to study more carefully. The aide worked with children individually, helping them choose and read library books about the animal, motivating them to draw pictures of their animal, recording their dictated stories about what they had learned about the animal, and finally putting their work into a book to be kept and taken home for sharing with the family.

Jeremy Scharf, Kindergarten
Georgetown Hill Elementary School, 1981-82

• The children made a class alphabet zoo book and carried on a group discussion about the animals they had seen at the zoo. The aide selected books about animals to read to them with titles such as: *About Animals, Animals Everywhere, Doing Their Thing, Today's Biggest Animals, Animal Land, Mammals, Baby Animals, Ten Little Animals,* etc. The aide also modified familiar games such as duck-duck-goose, charades, animal tag, etc., to reinforce the zoo animal theme.

Deborah Gant, Kindergarten
Watkins Mill Elementary School, 1980-81

• During the zoo visit, map skills were practiced by following individual maps and locating zoo destinations through map-reading. Later, children completed a zoo-related worksheet and took a quiz about the trip.

Cindy Moore, Grade 3
Brookhaven Elementary School, 1981-82

• A multidisciplinary approach to the study of eight animals started with a flannel board matching presentation (felt pieces representing the animals, their habitats, and their food) done by the aide and then repeated by the children. As a follow-up activity, the aide told stories and the children labeled the plots as either fantasy or real. Finally, there were exercises to develop the children's skill in sequential storytelling using animals as their themes.

Nicola Lupton, Kindergarten
Lucy Barnsley Elementary School, 1980-81

• In line with the science objective to match adult animals with their young, groups of zoo, farm, and pet animals were studied. To enlarge upon this unit, a pet shop was created using puppets and the puppet show theater stand. Activities in the pet shop included the buying and selling of stuffed animals, money exchange, and cash register storage. Stories about animals and pets were read. Reading *The Case of the Cat's Meow* led to a field trip to visit the aide's home (walking distance from the school) where two litters of kittens had been born the week before. During the field trip, the children were served refreshments, and when they returned to school, they completed a follow-up ditto about pets.

Kathy Mattis, Kindergarten
Forest Knolls Elementary School, 1979-80

• After the children studied animal life and environments, the topic of pets was selected as a creative writing motivator. Children were asked to pick a pet and answer scientific and social studies questions such as: Where would it live? What would it eat? What would you name it? What would it play with? What special needs might it have? How could your family help with your pet? Finally, the children were asked to draw and describe their pet.

Susan Bates, Grades 2-3
Lynnbrook Elementary School, 1980-81

• Following a lesson on animals, children selected one animal which appealed to them, drew pictures of it, and then arranged the pictures on a bulletin board designed as a circus cage on wheels.

Nancy Rutsch, Kindergarten
North Chevy Chase Elementary School, 1980-81

Brookside Gardens Field Trip

Science mini-lesson, tour of gardens, and picnic

Objectives:

• To learn and answer questions about the basic needs of transplant seedlings and about taking the necessary precautions to ensure life
• To observe the organization and beauty of the gardens
• To participate in and enjoy a class picnic in a socially acceptable manner

Intended for: The entire class

Location: 1500 Glenallan Avenue, Wheaton, Md. 949-5577

Directions/Procedures: Field trip procedures were followed by the aide as outlined in Appendix C, "Field Trips in Montgomery County Public Schools."

Procedures for Students:

1. Entire class boards MCPS bus at 9:00 a.m.
2. Attend "mini-lesson" at 10:00 a.m.
3. Answer questions about the basic needs of plants and planting techniques and receive a handout about the lesson.
4. Receive transplant seedlings to be taken home.
5. Tour the gardens.
6. Travel by MCPS bus to nearby Old McDonald's Farm for a picnic lunch.
7. Return to school by 2:00 p.m.

Kathy O'Brien, Grade 2
Candlewood Elementary School, 1981-82

Other Approaches to Develop Similar Objectives

• A unit on planting seeds and growing plants includes a flannel board presentation and a ditto showing different stages of plant growth, samples of seeds to be examined, and radish and bean seeds to be planted in small individual pots and cared for by each child.

Clare Heberg, Kindergarten
Highland View Elementary School, 1980-81

• A unit on planting seeds and growing plants includes designs for experiments to demonstrate what elements of the environment are needed for healthy plant growth; a bulletin board showing the results of the experiments; a detailed study of the growth cycle of plants from seed to maturity; observation of the lima bean seed throughout its growth cycle, with a lima bean plant to be grown by each child; demonstration of the rooting process of a sweet potato, white potato, onion, and spider plant cutting; a classification game with seeds and other objects; and a plant walk to be followed up with pictures drawn by the students and exhibited in the room.

Terri Fee, Kindergarten
Mill Creek Towne Elementary School, 1980-81

• Mr. Green, a styrofoam cup with facial features and ears made of colored paper and pasted on, becomes the container for a miniature "lawn." Grass seed is planted in soil inside the cup. Water and light encourage the growth of the grass, which becomes Mr. Green's hair. Children take Mr. Green home and care for him by watering his hair and cutting it with scissors.

Beth Kaminow, Kindergarten
Beverly Farms Elementary School, 1982-83

Name That Object

Question and answer game

Objectives:

- To use science vocabulary in phrasing questions about specific objects
- To limit successive questions to those which will provide new information
- To deduce by the process of elimination the object to be guessed

Intended for: Two teams of four to six players

Directions/Procedures:

1. The student aide thinks of an object to be guessed.
2. A child asks the student aide a question which can be answered only by "yes" or "no." The questions alternate from team to team and from child to child within a team.
3. Each question is to contain as many science words as the child can think of (living, nonliving, dead, etc.).
4. Teams earn one point for each different science word used.
5. The teams narrow down possible answers until one team names the object correctly and thereby earns five additional points.
6. The winner is the team with the greatest number of points.
7. Two new teams compete, and the winning teams from each match play each other.

Pam Rotberg, Grades 1-2
Cannon Road Elementary School, 1981-82

What Have You Learned About Living Things?

Sets of cards containing sample assessments for the science curriculum

Objectives:

- To distinguish between objects which are seeds and those which are not
- To demonstrate that the height of growing plants indicates that they grow in an orderly manner
- To describe living things that produce their own kind
- To classify foods that come from plants and those that come from animals

Materials: Four sets of color-coded cards on which are written assessment items related to some of the grade one science curriculum objectives; four envelopes in colors matching the cards to be used for sorting and storing the assessments of the

objectives above; grid containing names of children in the classroom and assessment items to be checked off as mastery is determined

Intended for: Individual children, one by one

Directions/Procedures:

1. The teacher determines the approximate level of accomplishment and checks which items should be assessed on a class chart.
2. The tester (teacher, student aide, parent volunteer, teacher assistant, science specialist, etc.) selects the cards representing these items, gathers the necessary science props, and assesses the child on them.

Kristine Nilsen, Grade 1
Beverly Farms Elementary School, 1980-81

Life Cycle—Butterfly

A science activity

Objectives:

- To show the stages of a butterfly's life cycle
- To observe a natural phenomenon

Materials: Grass; twigs; plastic zip-lock bags with hooks; stand to hang bags on; butterfly house (order no. 221-1040, $9.00) and butterfly cultures (order no. 237-1045 for $6.50) available through Elementary School Science Materials SCIIS, Delta Education, Inc., Box M, Nashua, NH, 03061-6012. (Allow three weeks notice for delivery.)

Intended for: Groups or individuals

Directions/Procedures:

1. Gather materials listed.
2. After the eggs have hatched into caterpillars (larvae stage), place them into plastic bags with some grass and twigs (children will enjoy feeling caterpillars crawling on their skin).
3. Attach hooks to the bags and hang the bags on the stand so that the caterpillars can be observed.
4. After the caterpillars spin their cocoons or chrysalises (pupal stage), place the cocoons in the butterfly house for further observation and hatching. The entire process of metamorphosis takes approximately one month.
5. Have the students draw pictures of the stages of the life cycle of the butterfly and label them.

Vera Burrous, Grade 2
Forest Knolls Elementary School, 1982-83

Terrarium Food Chain

Science activity

Objectives:

- To follow directions in building a terrarium
- To observe and identify living things as being dependent upon one another
- To define a food chain

Materials: One two-liter plastic container for each child (discarded large soft drink container); one large transparent terrarium box; potting soil; clover seeds; grass seeds; moss and fern (gathered from yards and woods); 100 aphids (order no. 224-1068, $6.50) and 100 ladybugs (beetles, order no. 230-1120, $2.75) available through Elementary School Science Materials SCIIS, Delta Education, Inc., Box M, Nashua, NH, 03061-6012 (Allow three weeks for delivery.)

Intended for: The entire class as a project and also project for each individual child

Directions/Procedures:

1. Have the students build a class terrarium with soil, seeds, plants, moss, etc., in a large terrarium box. Have the class observe and discuss the procedures step by step.
2. Place the terrarium in light but not in direct sunlight.
3. When the seeds have grown into plants and the greenery looks healthy and abundant, place aphids (which are plant eaters) in the terrarium.
4. Have the students observe aphids' behavior as they eat the plants.
5. Add ladybugs to the terrarium.
6. Have the students observe ladybugs capturing and eating aphids, their prey.
7. Discuss with students ways in which the organisms in the terrarium depend upon each other and ways in which a food chain has been created.
8. Have the students prepare individual terraria by removing the base of a two-liter plastic container (cutting plastic approximately one inch above the label all the way around) and placing the removed base on top of the container. The container is now ready to be used as a student's individual terrarium.
9. Students assemble the terrarium ingredients which have been previously collected as homework in the same way as the demonstration terrarium was set up.
10. Have the students take their terraria home for continued observation during the summer and fall.

Dawn D. Gobel, Grade 3
Cashell Elementary School, 1982-83

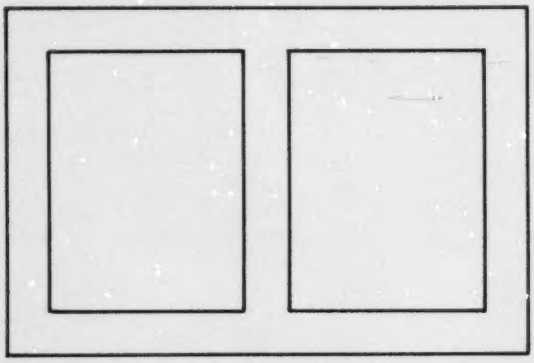
Appendix A

Directions for binding books

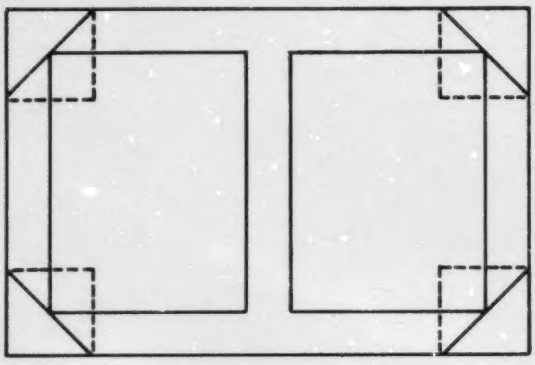
Materials: Paper for pages, two pieces of cardboard equal in size and slightly (¼") larger than the pages of the book, material for cover (cloth, oilcloth, wallpaper, contact paper, laminating material, paper, etc.)

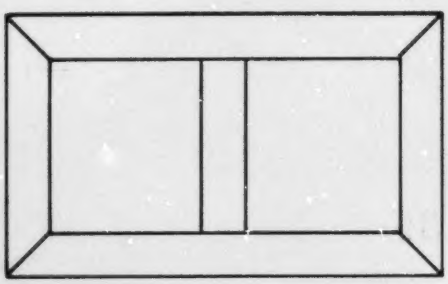
Directions/Procedures:

1. Select material for the cover.
2. Lay the cover material flat and place the cardboard pieces on it, leaving a space between them so the book will open and close.
3. Cut out the material, making it about one inch bigger all around than the cardboard.

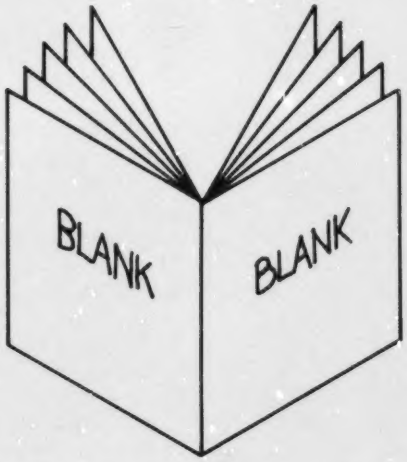


4. Glue the cardboard to the material.
5. Fold the corners in and glue them down. Next fold the bottom, top, and sides, and glue them down.





6. Fold paper for pages in half and sew down the center. (Outside page must be blank.)



7. Glue the first and last page to the cover.
8. Write the title on the cover and decorate the cover.

Appendix B

Suggestions for setting up a classroom library of books written by students:

1. Arrange the books in alphabetical order according to the last name of author.
2. Assign numerals to each book starting with 100.
3. Paste a heavy sticker in the lower left hand corner of the book's front cover giving the numeral assigned and the first three initials of the author's last name (100 BRO).
4. Label a library pocket with the numeral, name of author, and book title.
5. Paste the pocket on the inside of the back cover of the book.
6. Write the information from step 4 on an index card (3" x 5"), and insert it in the book pocket.
7. Place the book on the shelf in correct numerical position (100, 101, 102 . . .) for borrowing.
8. The borrower writes his/her name on the card and inserts it in a special container in alphabetical order according to the last name of the author.
9. When a student writes an additional book, add this to the collection by assigning the next highest numeral after the last book that was numbered in the original collection. For example, if the last book of the original collection was 130, the new book will be 131. Complete the process as before.
10. Store new books on shelves in the correct numerical position.
11. An additional card catalog is compiled as a permanent record of what is in the library. There is one card for each classroom author, naming all the books which he/she has written and the numbers assigned to them.

Illustration:

Brown, Billy
100 *Parrots*
232 *Jellybeans*
259 *Frogs*

Appendix C

Field Trips in Montgomery County Public Schools*

A field trip is "a school-sponsored activity which does not include an overnight stay, with emphasis on educational objectives providing pupils with opportunities for educational enrichment beyond classroom environment."

The major steps to be taken to set up a field trip are:

1. Develop a proposal for the trip with the teacher. The proposal should include:
   a) statement of the objectives and an outline of the anticipated educational experiences and/or the course of study to be followed. (If possible, visit the site before making final plans.)
   b. An itemized statement of basic costs (transportation, meals, fees, etc.).
2. Arrange for transportation, food, and other accommodations.
3. Obtain written parental consent for each child.
4. Arrange for chaperones. (Traditionally, the principal has been responsible for assuring that the number of chaperones is appropriate.)

Please refer to the MCPS Social Studies, K-8, suggested field trip booklet, published in the fall of 1982.

*Students are advised to read the complete text, MCPS Regulation 301-5, "Travel Study Programs and Class and Student Organization Trips" available in the school's administrative offices and library.